

Chiriqui where previous Central American records of *P. procilla* originate. The fresh condition of the specimen suggests that rather than immigrating from the mountains of the Cordillera Central or Talamanca, it eclosed either at La Selva or in the immediate vicinity: a broad range of habitats for a rare butterfly species. The second point of consideration is simply to wonder how a large, garrishly colored butterfly species, that is collected commonly near human habitations in South America, has escaped detection in Costa Rica (and Panama) for so many years.

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An Additional Natural Hostplant of *Pieris Virginiensis* (W.H. Edwards) (Pieridae) in Ohio

For many years, the West Virginia white, *Pieris virginiensis* (W.H. Edwards), was known to utilize only toothwort, *Dentaria diphylla* Michx., as a natural hostplant (Klots, 1935). Although other species of *Dentaria* were long suspected to serve as natural hosts (Klots, 1951), only cut-leaved toothwort, *Dentaria laciniata*, was subsequently reported (Shapiro, 1974; Chew, 1980; Cappucino and Kareiva, 1985). Scott (1986) included Pennsylvania bitter cress, *Cardamine pennsylvanica* Muhl., and *Brassica* as hosts without reference. Recently, smooth rock cress, *Arabis laevigata* (Muhl.) Poir., was found to serve as an additional host in central Ohio (Shuey and Peacock, in press). *P. virginiensis* will also feed upon a number of mustards in the lab that are not utilized in nature (Shapiro, 1971; Chew, 1980).

On 25 April 1988, a female *P. virginiensis* was observed ovipositing on narrow-leaved toothwort, *Dentaria multifida* (Muhl.), on a rich forested stream terrace in Delaware County, Ohio. At this site, *D. laciniata* is abundant and serves as the primary host of *P. virginiensis*. *Arabis laevigata* is also fed upon with some frequency in this area but is uncommon in occurrence. *Dentaria diphylla* is absent. The single ovum deposited in *D. multifida* was collected and reared to pupation on the leaves of this newly discovered host. One additional ovum was later found on *D. multifida* and also reared to pupation.

Throughout its restricted range, *D. multifida* is generally considered uncommon, occurring in Indiana, Ohio, West Virginia, Kentucky, Tennessee, Georgia, Alabama, and North Carolina (Montgomery, 1955; Duncan and Foote, 1975). In Ohio, *D. multifida* is rare and considered threatened. Post-1960 records exist for Delaware, Athens, Washington, and Morgan Counties (McCance and Burns, 1985). The single historical Delaware County site is located several kilometers north of the site found in 1988 (Long, 1956; Allison W. Cusick, pers. comm.). Within Ohio, the known ranges of *D. multifida* and *P. virginiensis* overlap only in Delaware County.

Shapiro (1971) and Chew (1980) noted that *P. virginiensis* females will readily oviposit on many species of mustards but few mustards are typically available in the forested habitats of the butterfly. Hence, the utilization of *D. multifida* in

Delaware County, Ohio is probably due to its presence in an area where *P. virginiensis* is established in association with another, more common *Dentaria*. In the eastern United States, the range of *D. multifida* lies nearly completely within the range of *P. virginiensis* and may serve as a host outside of Ohio.

With the addition of *D. multifida* as a host, *P. virginiensis* has now been found and reared (at least to pupation) on four species of mustards in Ohio. *Dentaria diphylla* and *D. laciniata* appear to serve as the primary hosts, while *Arabis laevigata* and *D. multifida* are known to be utilized locally. An examination of other species of mustards found growing in habitats where *P. virginiensis* occurs will probably reveal additional natural hostplants.

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